



US006553604B1

(12) **United States Patent**
Braun et al.

(10) Patent No.: **US 6,553,604 B1**
(45) Date of Patent: **Apr. 29, 2003**

(54) **TOOTHBRUSH**

(75) Inventors: **Phillip M. Braun**, Exeter, RI (US);
William Alan Bredall, Pacifica, CA
(US); **Karen Lynn Claire**, Somerville,
MA (US); **Thomas Craig Masterman**,
San Francisco, CA (US); **Mark**
Edward McConnell, Foster City, CA
(US); **Michael F. Roberts**, Braintree,
MA (US); **Thomas Overthun**, San
Francisco, CA (US)

(73) Assignee: **Gillette Canada Company**, Halifax
(CA)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/526,679**

(22) Filed: **Mar. 16, 2000**

(51) Int. Cl.⁷ **A46B 9/04; A46B 7/06**

(52) U.S. Cl. **15/167.1; 15/201**

(58) Field of Search **15/167.1, 201,**
15/186

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,263,802 A	11/1941	Grusin
2,486,847 A	11/1949	Hokett
2,604,649 A	7/1952	Stephenson et al.
2,637,870 A	* 5/1953	Cohen
2,882,544 A	* 4/1959	Hadidian
2,935,755 A	* 5/1960	Leira
3,110,918 A	11/1963	Tate
3,129,449 A	* 4/1964	Cyzer

4,114,222 A	9/1978	Serediuk
4,633,542 A	1/1987	Taravel
4,694,844 A	9/1987	Berl et al.
4,776,054 A	10/1988	Rauch
5,269,038 A	12/1993	Bradley
5,357,644 A	10/1994	Theriault
5,398,366 A	3/1995	Bradley
5,435,032 A	7/1995	McDougall
5,528,786 A	6/1996	Porat et al.
5,799,354 A *	9/1998	Amir
5,802,656 A	9/1998	Dawson et al.
5,813,079 A	9/1998	Halm
5,839,148 A	11/1998	Volpenhein
5,896,614 A	4/1999	Flewitt
5,991,959 A	11/1999	Raven et al.

FOREIGN PATENT DOCUMENTS

DE	1 210 409	2/1966
DE	003928919 A	3/1991
DE	.19817704	4/1998
EP	0 857 026 B1	1/2000
EP	0 972 464 A1	1/2000
JP	405076416 A	3/1993
RU	SU 1752336 A1	5/1990
WO	WO 99/37181	7/1999

* cited by examiner

Primary Examiner—Randall E. Chin

(74) *Attorney, Agent, or Firm*—David A. Howley

(57) **ABSTRACT**

A toothbrush includes a handle, a head extending from the handle, and a plurality of tooth cleaning elements, such as tufts of bristles, extending from the head. Each tooth cleaning element is supported for rotation about primarily only one axis. Each tooth cleaning element is rotatable independent of the other tooth cleaning element(s).

11 Claims, 4 Drawing Sheets

